

Bull. Natn. Sci. Mus., Tokyo, Ser. A, 17(3), pp. 139–143, September 22, 1991

Two Interesting Species of the Genus *Clubiona* (Araneae, Clubionidae) from Hokkaido, Japan

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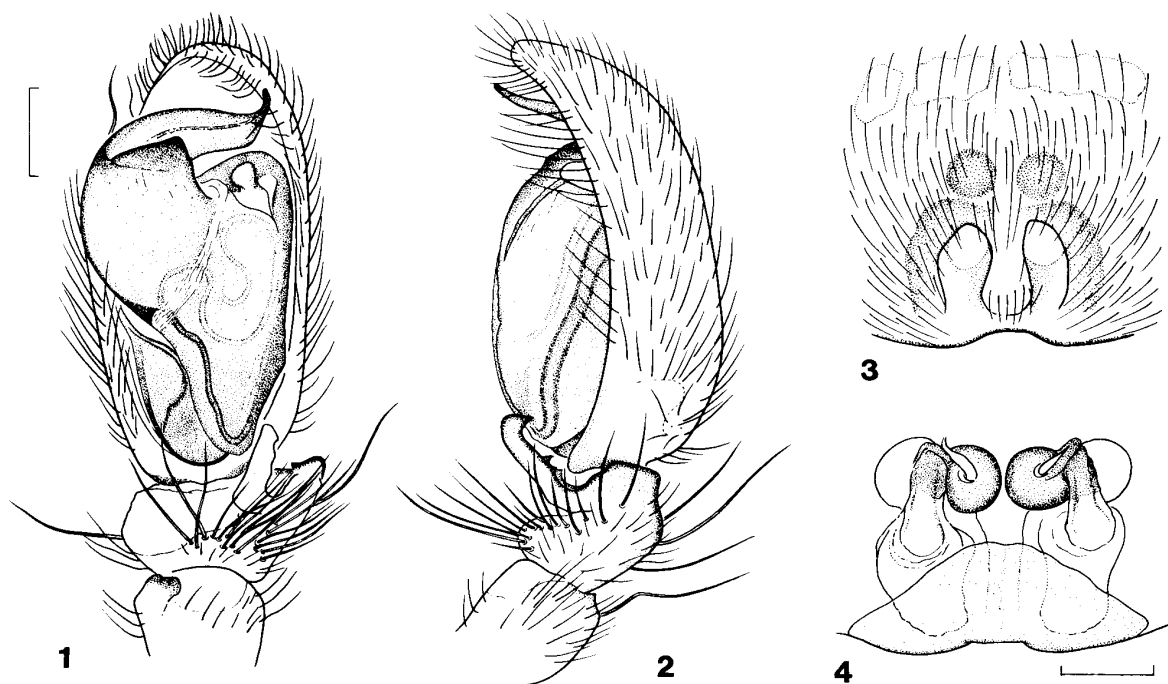
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Abstract Two interesting species of the genus *Clubiona* LATREILLE, 1804, are reported from the mountains of Hokkaido, Japan. *Clubiona kulczynskii* LESSERT, 1905, widely distributed from Europe through Siberia to North America, is recorded for the first time from Japan. A new species of the group of *Clubiona japonicola* BÖSENBERG et STRAND, 1906, is described from Mt. Kurodake, Daisetsuzan Mts., Hokkaido, Japan, under the name of *Clubiona yasudai*.

The genus *Clubiona* LATREILLE, 1804, is one of the large spider genera, containing more than 400 species distributed all over the world. From Eurasia, 216 described names have been listed (ONO & HAYASHI, 1990); a quarter of them are known from Japan. Though the northernmost part of Japan, Hokkaido, seems to be rich in the spiders of the genus, they have not been intensively studied. The following species including some problematical ones have hitherto been recorded from Hokkaido and its accessory islands (PEELLE & SAITO, 1932; HAYASHI, 1987; MATSUDA, 1990, 1991; for other literature see HAYASHI, 1987): *Clubiona japonicola* BÖSENBERG et STRAND, 1906, *C. jucunda* (KARSCH, 1879), *C. caerulea* L. KOCH, 1867, *C. amurensis* MIKHAILOV, 1991, *C. basarukini* MIKHAILOV, 1991, *C. rostrata* PAIK, 1985, *C. kurilensis* BÖSENBERG et STRAND, 1906, *C. tsurusakii* HAYASHI, 1987, *C. sapporoensis* HAYASHI, 1986, *C. ezoensis* HAYASHI, 1987, *C. vigil* KARSCH, 1879, *C. japonica* L. KOCH, 1878, *C. flavipes* (S. SAITO, 1939) [synonymized with *C. japonica* by HAYASHI (1987), but revived by MIKHAILOV(1990); both the treatments are not based on the type specimens], *C. pseudogermanica* SCHENKEL, 1936, sensu MIKHAILOV(1991) [= *C. propinqua*: HAYASHI, 1987], *C. yagata* YAGINUMA, 1972, *C. badia* PEELLE et SAITO, 1932 [*C. yagata* and *C. badia* are synonymized by MIKHAILOV(1990) with *C. riparia* L. KOCH, 1866, but are tentatively maintained by the present author], *C. lutescens* WESTRING, 1851, *C. phragmitis* C. L. KOCH, 1843, *C. frutetorum* L. KOCH, 1866, *C. brevipes* BLACKWALL, 1841 [records in Japan of these four species need confirmation], *C. perforata* PEELLE et SAITO, 1932 [never recognized since its original description], *C. glatiosa* S. SAITO, 1934 [probably a philodromid].

Through the courtesy of Mr. Nobuki YASUDA, Kamikawa-chô, Hokkaido, the author obtained many specimens of *Clubiona* spiders mainly collected by the pit-fall trapping in various places in Hokkaido. In the present paper two interesting species will be reported from the collection. One of them is identified with *Clubiona ku-*



Figs. 1–4. *Clubiona yasudai* sp. nov.—1. Male palp, ventral view. 2. Same, retrolateral view. 3. Epigynum. 4. Female genitalia, dorsal view. (Scales: 0.25 mm.)

lczynskii LESSERT, 1905, widely distributed in the cold-temperate areas in the Northern Hemisphere but hitherto unknown from Japan. The other seems to be new to science and will be described herein under the name of *C. yasudai*.

All the materials including the types used in the present paper are deposited in the collection of the National Science Museum (Natural History), Tokyo.

The following abbreviations are used in this paper: ALE, anterior lateral eye, AME, anterior median eye, PLE, posterior lateral eye, PME, posterior median eye.

The author wishes to express his cordial thanks to Mr. Nobuki YASUDA, Sôunkyô Museum, Kamikawa-chô, Hokkaido, for offering invaluable specimens, and to Dr. Shun-Ichi UÉNO, National Science Museum, Tokyo, for critically reading the manuscript of this paper.

***Clubiona yasudai* sp. nov.**

[Japanese name: Yasuda-fukurogumo]

(Figs. 1–4)

Type series. Holotype: ♂, Mt. Kurodake, 1,470 m alt., Daisetsuzan Mts., Hokkaido, Japan, 26–VIII–1987, N. YASUDA leg. (NSMT–Ar 2221); paratypes: 1 ♂, same locality and collector, 5–IX–1987 (NSMT–Ar 2222), 3 ♀, Mt. Kurodake, 1,670–1,740 m alt., same date and collector (NSMT–Ar 2223–2225).

Description. Measurements (in mm). Body length ♀ 7.78–8.33, ♂ 6.56–

6.67; prosoma length ♀ 3.22–3.33, ♂ 2.89–3.22, width ♀ 2.44–2.67, ♂ 2.00; opisthosoma length ♀ 4.56–4.78, ♂ 3.55–3.67, width ♀ 2.89–3.11, ♂ 1.89–2.11; lengths of legs I–IV [total (tarsus + metatarsus + tibia + patella + femur)]: ♀ (one of the paratypes) I 8.56 (1.00 + 1.61 + 2.06 + 1.33 + 2.56), II 8.71 (1.06 + 1.56 + 2.17 + 1.31 + 2.61), III 7.25 (0.75 + 1.70 + 1.50 + 1.10 + 2.20), IV 9.61 (0.88 + 2.80 + 2.15 + 1.10 + 2.68), ♂ (holotype) I 7.91 (0.98 + 1.63 + 2.00 + 1.05 + 2.25), II 7.89 (0.98 + 1.63 + 2.10 + 1.08 + 2.10), III 6.30 (0.65 + 1.55 + 1.30 + 0.90 + 1.90), IV 0.80 + 2.50 + 1.90 + 1.00 + 2.38).

Prosoma. Eyes: ALE/AME ♀ 1.04–1.36, ♂ 1.30–1.40, PLE/PME ♀ 1.00, ♂ 1.00–1.10, AME–AME/AME–ALE ♀ 1.00–1.26, ♂ 1.31–1.71, PME–PME/PME–PLE ♀ 1.38–1.42, ♂ 1.29–1.30. ♀♂ Chelicera normal, with five teeth on promargin of fang furrow and three teeth on retromargin. Metatarsus of leg I with 2–0–0 ventral spines; tibia of leg I with 2–2 ventral spines; scopula developed on tarsi and metatarsi I–II.

Male palp (Figs. 1–2). Retrolateral apophysis of tibia with two processes; dorsal process very short, ventral one long and slender with some small teeth. Tegulum elongate with tegular apophysis very wide and strongly sclerotized; conductor present, small and digitiform; embolus short and broad, apically curved ventrad.

Female genitalia (Figs. 3–4). Intromittent orifices large and situated in the posterior part of epigynum. Intromittent canal short, extending in anterior direction; atrium globular, as large as spermatheca, which is globular.

Coloration and markings. ♀♂ Prosoma dark yellow to reddish brown with distinct or indistinct black streaks radiating from dorsal groove; chelicera reddish brown, maxillae, labium and sternum yellowish to reddish brown; legs and palps dark yellow. Opisthosoma yellowish brown or dull pink with a darker band in the anterior part and several chevrons in the posterior part; ventral side lighter.

Remarks. This new species belongs to the species-group represented by *Clubiona japonicola* BÖSENBERG et STRAND, 1906 (MIKHAILOV, 1990), and bears a close resemblance to that species, but can be distinguished from the latter by the shape of embolus of male palp and intromittent canal of female genitalia.

The specific name of this new species is dedicated to Mr. Nobuki YASUDA, Sôunkyô Museum, Kamikawa-chô, Hokkaido, Japan.

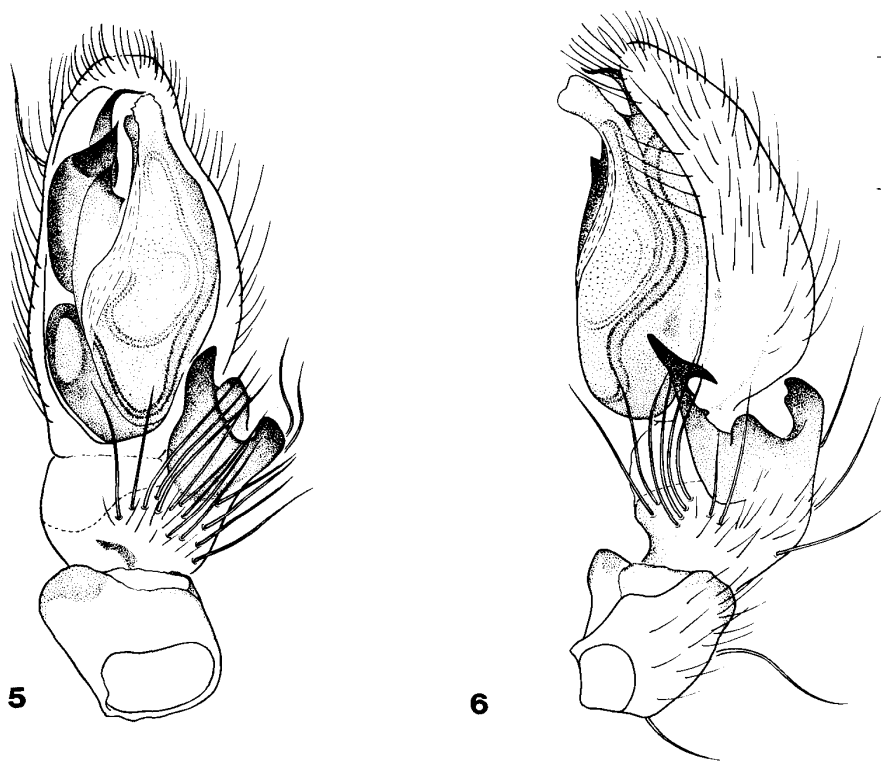
Clubiona kulczynskii LESSERT, 1905

[Japanese name: Hoppô-fukurogumo]

(Figs. 5–6)

Clubiona Kulczynskii LESSERT, 1905, p. 647, figs. 13–14 (♂ holotype from Schuls, 1,250 m alt., Graubünden, Switzerland, not examined). — SIMON, 1932, pp. 910, 915, figs. 1378, 1390.

Clubiona kulczynskii: LESSERT, 1910, p. 400, figs. 190–191. — REIMOSER, 1919, p. 180. — SCHENKEL, 1923, p. 113, pl. 7, fig. 16. — CHARITONOW, 1936, p. 213. — TULLGREN, 1946, p. 26, fig. 8 A–B, pl. 4, figs. 49–51. — EDWARDS, 1958, p. 403, figs. 148–149, 158, 217. — WIEHLE, 1965, p. 493, figs. 92–95. — TYSHCHENKO, 1971, pp. 128, 133. — DONDALE & REDNER, 1982, p. 85, figs. 158–161. — ONO & HAYASHI, 1990, p. 8.



Figs. 5–6. *Clubiona kulczynskii* LESSERT, 1905.—5. Male palp, ventral view. 6. Same, retro-lateral view. (Scale: 0.25 mm.)

Clubiona intermontana GERTSCH, 1933, p. 9, figs. 10, 13 [synonymized by EDWARDS (1958)].

Clubiona altana GERTSCH, 1941, p. 16, figs. 54 [synonymized by EDWARDS (1958)].

Clubiona (Eurycubiona) kulczynskii: LOHMANDER, 1944, p. 21.

Clubiona (Clubiona) kulczynskii: MIKHAILOV, 1991, p. 222.

Specimens examined. 4 ♂♂, Mt. Teshiodake, 1,530 m alt., Asahi-chô, Kamikawa-gun, Hokkaido, Japan, 26–VII–1987, N. YASUDA leg. (NSMT–Ar 2226–2227).

Notes. This species was first described from the alpine region of Switzerland and became known to be widely distributed in the regions under the cold climate in the Northern Hemisphere (in the coniferous forests?). It is recorded for the first time from Japan. The male palp is illustrated on the basis of the Japanese material. This species belongs to the species group of *Clubiona reclusa* O. PICKARD-CAMBRIDGE, 1863.

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